Autism Spectrum Disorder

Autism (Boston University)

Scan to open on Studocu

Studocu is not sponsored or endorsed by any college or university
Downloaded by moin khan (moinamb99@gmail.com)

SHOUT
SHARE
IT

Autism Spectrum Disorder Comprehensive Exam Study Guide

- ASHA Definition- ASD is a neurodevelopmental disorder characterized by deficits in social communication and social interaction and the presence of restricted, repetitive behaviors
- Neurodiversity movement does not support Autism Speaks and what they put out can be very controversial
- Neurodiverse Model- Sensory assault- what it is like in our 'neurotypical' word that is not always meant for them
    - "Autism is not an illness, it is a different way of being human"- Barry Prizant, PhD
- Deficit Model- keep in mind that things are always changing
    - A DSM diagnosis (important to look beyond this)
        - Criteria for ASD
            - 1) Social Communication and Interaction (SCI) manifest 3 of 3
                - Deficits in social-emotional reciprocity
                - Deficits in nonverbal communicative behaviors used for social interaction
                - Deficits in developing, maintain, and understanding relationships
            - 2) Restricted, Repetitive behaviors (RHB) at least 2 of the 4
                - Stereotyped or repetitive speech, motor movements of use of objects
                - Need for sameness
                - Restricted interests
                - Unusual sensory interests' hypo/hypersensitivity
        - ASD is not the big umbrella term, was not always this way
        - Severity Levels
            - Applied to SCI and the RRB
                - Level 3- very significant support
                - Level 2- significant support- most outside people would notice challenges
                - Level 1- Impairment or inflexibility in one or more contexts
- Social Communication Disorder- if you have SCI without RHB, not an ASD diagnosis, it is a separate diagnosis
    - Characterized by a persistent difficulty with verbal and nonverbal communication that cannot be explained by low cognitive ability
    - Cannot have ASD and SCD, need to have one or another but SCD can coincide with a language disorder etc.
    - Not as inflexible but struggle with back and forth and it is not because of comprehension it is because they are missing the social cues
- 1 in 54 individuals has ASD prevalence has increased over the years
    - Increased parental age more risk with older parents to have children with ASD
- 4.5x more common in boys than girls (Invisible Girls likely not 4x, more like 2x because we do not diagnosis woman because it presents differently)
    - Girls- mask behaviors very well or imitate behaviors (not really engaging in the behavior), their play is very different
- White children are more likely to be diagnoses than black/Hispanic children
- 2 million people in the US have ASD
- Average age of diagnosis is about 4 but we can reliability diagnosis at 2 and that is a big difference
    - When ASD starts becoming clearer as they enter school age
    - Motor things and how long children look at faces- research showing these differences can be seen around 3-6 months
    - Milder cases diagnosed around 6 years of age and with woman it is even later
- People first language vs. identity- however the child with ASD wants to communicate (make sure to check in with child or family)
    - 4th and 5th grade is normally when the children begin to learn about their diagnosis
- Linear ASD spectrum- not well accepted to use the term of low functioning vs high functioning

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

    - It is not linear; it is complex why someone may or may not use language
    - We should be clearer is describing them: cognitively challenged, non-speaking, struggling communicative (a child who was previously described as low functioning)
        - Much more descriptive than putting a label on
    - Very verbal, accessing curriculum well, challenged significantly around social interactions, maintaining conversation etc. (a child who was previously described as high functioning)
- Asperger's- typical symptoms- quirky, high vocabulary, talkative, intonation patterns can be unique
- Risk Factors and Characteristics
    - High genetic- identical twins (if one child has ASD, the other will have a 36-95% chance), nonidentical twins- if one child has ASD then the other child will be affected 0-31% of the time
    - Siblings- 2-18% chance of second child having some affect of ASD
    - Intellectual abilities- 44% of children with ASD have average to above average intellectual ability (about half) and the other half has challenges with intellectual abilities
    - Older parents- 35 and above
    - Premature or low birth weight
    - Time between births- higher risk for less than 18 months, greater than 60 months
- Economic Costs
    - Total cost for children in the US is 11.5 billion-60 billion
        - Special education, medical intervention, lost parent productivity, etc.
        - Annual medical expenditures are 8-9x greater for children and adolescents with ASD and those without
        - Behavioral interventions cost 40-60k per year

<u>Brief History</u>

- End of 18th century
    - Historical and fictional character throughout time
- German word "autismus" coined by swiss psychiatrist Eugen Bleuer (1911/1950)
- 1943 Leo Kanner in journal Nervous Child introduced the modern concept of autism
    - Distinct from schizophrenia
    - Failure of development not a regression
    - Problems with symbolism, abstraction, and understanding meaning
    - Profound disturbances in communication
- Kanner's work led to the belief that persisted for some time and that ASD was caused by inappropriate parenting
- 1944 Hans Asperger a physician working in Vienna proposed another autistic condition → autistic psychopathy also known as Aspergers
- Rutter in 1944→ childhood disintegrative disorder (now eliminated) and moved ASD into a category of neurodevelopmental disorders
- Andreas Rhett in 1966→ Rett's disorder
- Until 1970s ASD was considered a form of schizophrenia
- ASD was first included in the DSM-3 (1980) → infantile autism
- In the revised 3rd edition many changes were made including "autistic disorder" and focussing on the social component of language
- DSM-4 included Asperger's disorder
- DSM-5 reorganized and addition of sensory sensitivity as part of the diagnostic criteria

Brain Differences

- No research has shown "characteristic: brain structure of ASD
- Huge variability
- Some Differences:
    - Enlarged hippocampus in children and adolescents
    - Amygdala appears to be different in size (varying results in research)

Downloaded by moin khan (moinamb99@gmail.com)

- Decreased brain tissue in cerebellum
- White matter differences

Co-occuring Conditions

- 70% of children (aged 10-14) were diagnosed with a co-occurring condition
- 41% of children were diagnosed with 2 or more co-occuring conditions
  - Social anxiety disorder
  - ADHD- 28-78%
  - Oppositional defiant disorder
  - Fetal alcohol syndrome
  - GI Issues→ language impairments, social withdraw, anxiety
  - Sleep difficulties (80% of children with ASD) → increased maternal stress and parental sleep disruption- delayed language acquisition, challenging behaviors, difficulty regulating emotion, attention issues, hyperactivity, social difficulties
  - Seizures- 25-38%
  - Intellectual disability- 38%
  - Anxiety- 40-50%
  - Depression- 37% adolescents

<u>Diagnosis of ASD</u>

- Important- standard dx is critical to investigating medical and scientific issues, course of development and response to treatment, efficient and accurate communication among professionals
- How early can we diagnose?
  - Failure to develop joint attention may be particularly detrimental to language acquisition
    - Joint attention should emerge around 9 months of age and be very well established by 18 months of age
      - Critical foundation for social, cognitive, and language development
      - This is THE factor- very hard for MOST children with ASD to do
  - Within the first year of life there are differences with infants who later receive the diagnosis of ASD
    - Subtle differences in motor development, visual attention, and interests in objects may be earliest signs of atypical development
  - Between year 1 and 2
    - Differences in social interaction behaviors become more apparent
    - Some show signs of regression
- Any early diagnosis is possible and reliable→ important for early intervention
- Main things we can do:
  - Early comprehensive and interdisciplinary assessment leads to reliable diagnosis in the 2nd year of life
  - Often not diagnosed until preschool
  - Delayed diagnosis even more apparent for underrepresented minority
  - Critical for early and intensive intervention during time when brain is most plastic and amenable to modifying the atypical developmental course

Red Flags for Infants

- No warm smiles or joyful expression by 6 months
- No back and forth sharing of smiles or facial expressions by 9 months
- No babbling, back and forth gestures by 12 months
- No words by 18 months
- Loss of skills around 24 months

Red Flags for Toddlers

- Lack or delay in spoken language
- Limited use of gestures or pointing to reference objects
- Limited pretend play or inappropriate play with objects

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

    - No sequencing, isolated and not connecting to others
- Limited interest in other children, limited shared on enjoyment or emotional reciprocity
- Sensory avoidant behaviors
    - Hyper or hypo, may be triggered by touch or not like the way their clothes feel
- Extreme tantrums
    - Quality of tantrum, how often they are happening
- Overall more isolated play

Research shows that join attention tells us a lot

- Reduced joint attention using gestures at 12 mos can be a sign of ASD ad DLD
- How do they work at getting adult's attention? Trying to get something they want or need vs. just sharing a moment with a caregiver
    - More behavioral regulation than JA in ASD
- JA=social component vs. behavioral
- ASD group exhibits JA less frequently than children who are TD
    - Fewer instances of initiating JA, high quality level is pointing and showing vs. just eye gaze which is what ASD group was doing
    - For either ASD or DLD, infrequent JA is a red flag

Who is involved in the assessment?

- Psychologists
- Social workers
- OT
- SLP
- Psychiatrist
- Developmental pediatrician
- Neurologist
- Feeding specialist (parents notice not sleeping and not eating well early on)
- Transition coordinator
- Helpful to refer to a center where all of these professionals are working when thinking about diagnosis

SLP Scope of Practice in Diagnosing ASD

- You should be part of the diagnostic team for diagnosing
- "Presents with behaviors consistent with an ASD diagnosis" and refer elsewhere- still being very honest and clear but not giving the exact diagnosis (this is if you are by yourself, i.e., Meghan only diagnostician at BU)
- If there are good access to services, always refer out to a better team
    - You can diagnosis if you have training, but you SHOULD do it if you are in a multidisciplinary team but SHOULDN'T if you don't have training/alone on a team
- Important to be honest- if you are the first one to see the family you are setting the stage- help them with next steps (important to be evaluated by neuropsychologist etc. but from a communicative profile I am seeing some red
- Check state boards to see if it is allowed in your state

Assessment Process

- Gathered from a variety of settings→ different contexts have different impacts (need to be realistic, adult-child interactions are different)
    - If you cannot go see a child in natural settings, need to get reporting done my parent, teacher, etc.
- Parent/caregiver interview
- Record review
- Standardized assessment
- Behavioral questionnaires
- Informed observation
    - When observing, keep in mind if the child hasn't slept much, if the child feels sick that day, a child that is particularly anxious will act differently around you (was that a typical interaction?)

Downloaded by moin khan (moinamb99@gmail.com)

Domains of Assessment (infants and toddlers)

- History
- Developmental functioning- have they been reaching milestones?
- Speech, language, and communication skills
- ASD-related behaviors
- Adaptive functioning
- Screening for comorbidities

Speech, Language, and Communication

- Nonverbal: eye gaze, facial expressions, body posture, gestures, physical approach etc. (children with ASD have difficulty with this)
- Verbal: expressive language-vocalizations, jargon, single words/fewer words, combined etc.
    - Sometimes atypical intonation (monotone, high pitch)
    - Don't compensate for reduced language skills (if you have a late talker coming to you, they will compensate by using more gestures/try to get point across--ASD kids do not)
- Receptive language
- ASD vs. Language disorder
- Echolalia- immediately repeat what you said (always assess how they are using echolalia because it often has a purpose)
    - Important because children with ASD learn language differently (learn in chunks)
    - Using different pronouns/words based on what parents say, don't understand the meaning of it and just repeating (TD- "bath" vs. ASD- "time for your bath")
        - Oftentimes has a message, use echolalia to soothe themselves, repeat to calm it down

Examples of Assessment Instruments for Infants and Toddlers

- Mullen Scale of Early Learning
- Battelle Developmental Inventory
- Preschool Language Scales-5th Edition
- Communication and Symbolic Behavior Scales
- MacArthur Bates Communicative Developmental Inventories- 2nd edition
- Rossetti-Infant-Toddler-Language Scale
- Autism Diagnostic Observation Schedule-2nd Edition (gold standard- has good data and consistently identifies children with ASD)

ASD Screeners

- Modified Checklist for Autism in Children (M-CHAT)
    - Ask 20 questions about toddlers behaviors
    - Level 1 screener
- Rapid Interactive Test for Autism in Toddlers (RITA-T)
    - Level 2 screener- a little deeper than M-CHAT
    - Short semi structured assessment
    - 10 minutes to administer
    - Decrease parents wait time for diagnosis-- therapists can start treating earlier if they know

Language

- Extremely variable in ASD
- Longitudinal research: significant portion of children with minimal language skills early in life, develop at least some spoken language by the age of 0 with only 9-15% of children remaining nonverbal in later childhood
- Approximately 47% of children with ASD will have additional impairments in phonological processing and grammar that resemble non-ASD children with more specific developmental language disorders
- Children who were diagnosed with ASD also tended to follow **slower-developing trajectories of both language reception and expression**

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

FORM, CONTENT, AND USE

Form

- Once verbal language is acquired, articulation is relatively unimpaired across language phenotypes
- However, performance on complex tests of phonological processing is less clear
    - Reduced performance on nonsense word repetition (phonological short term memory)
- Most struggles with meta-skills: rhyme awareness
- Atypical patterns in processing and producing prosody across lifespan
- Deficits in morphosyntax and grammar
    - Use fewer morphemes to mark verb tense and agreement
    - Shorter and simpler utterances (even if similar amount)
    - Poor sentence repetition

Content

- Vocabulary reduced
    - What they know about words and how they acquire them is different
    - Don't use semantic info to recall

Use

- Pragmatic deficits are universal within ASD
    - Particularly evident in higher level discourse processing and narrative tasks
- Significant deficits in conversational skills
    - Too many or too few initiations
    - Poor topic maintenance
    - Fewer contingent conversational responses
    - Non-contextual or socially inappropriate utterances
- Significant deficits in narrative tasks
    - Poor referencing (don't orient you to the topic)
    - Irrelevant propositions
    - Ignoring motivation of characters or events (character motivation is a challenge, not aware of character feelings or use that info to make decisions about context or inferencing)
- Understanding language in context is problematic
    - Poor figurative language and metaphorical language
    - Poor inference skills
    - Reduced ability to resolve ambiguous language (not using context well to figure out when something is unclear)

Literacy

- Less attention has been spent on this area given significant social and oral language challenges
- "Hyperlexic"- debatable; can read words from a young age but it is the piece where it is just decoding and comprehension is very weak (can be high level text)
- Varied reading patterns in larger cohorts of children with ASD
    - 30% impaired on word and nonword reading measures
    - Most had deficits in reading comprehension
    - Early language skills are important predictors of later reading ability to ASD
- ASD cognitive profiles influence reading skills: reduced inference and monitoring comprehension, maintain narrative threads throughout text etc.

Cognitive Theories of ASD

- **Theory of Mind (ToM) Deficit**
    - https://www.youtube.com/watch?v=N6ylH- LYjOM&pbjreload=10
    - Uta Frith- German Developmental psychologist
    - False belief tests- how we test
        - Develops between 4-5 (4 year olds typically fail, 5 years often pass)

Downloaded by moin khan (moinamb99@gmail.com)

        - Very language heavy
        - So may not be that they don't cognitively get it, the way that it is presents is high
        - Realization that it is possible to hold false beliefs in the form of the world
        - Second order- develops between 6-10 years of old- possible to hold a false belief about someone else's belief
    - Not just for ASD (TBI, language disorders)
    - Think, know, wish, feel → all of these abstract verbs are really hard
    - Persuasive essays are very challenging (thinking about what others think)
    - In the school-- challenges with critical thinking (about how characters are feeling in texts because not explicitly stated by the author)
    - Problems with perspective taking→ challenges with forming and maintaining friendships
    - pragmatics= social cognition (better umbrella term)
    - Not empathy- so far from the truth
- **Central Coherence** (forest vs. trees) (thinking about the details)
    - Individuals on the ASD spectrum have difficulty conceptualizing to a larger whole
    - Tend to think in parts and don't fully relate their pieces of information back to a larger pattern of thought
    - Impact of only seeing details→ impact both socially and academically (should target main idea during tasks)
- **Executive Dysfunction Theory (hard time with goal setting, organization etc.)**
    - People with social cognitive deficits have difficulty solving personal problems, communicating effectively and creating organizational structures that allow for flexibility and prioritization
    - Affects social relationships and academics
- **Double Empathy Theory (neurodiverse approach)--** not applicable to two individuals with ASD speaking
    - Communication breakdown is a two way issues, caused by both parties difficulties understanding one another
    - Disconnect between neurotypical people and people on the spectrum
    - People on the spectrum communicating with each other do not have this problem
    - Neurodiversity approach
    - "Insider" accounts- individuals with ASD telling us about it
- **Communicative Functions (Wetherby and Prizant 1990)**
- Reasons to communicate
    - Behavioral regulation
    - Social interaction
    - Joint attention
        - Acts used to direct others attention for purposes of sharing the focus on an entry or event
            - Referential looking
            - Declarative pointing and showing
            - Looking where others look and point
            - Social referencing
    - Developmental of preverbal communication is necessary precursor to development of intentional use of language to communicate
- Behavioral Regulation
    - Communicative acts used to regulate behavior of another person to obtain or restrict an environmental goal
    - 2 elements: child is interested in meeting his needs, and he will attempt to regulate the actions of others to help him meet his needs or to help keep himself in his personal comfort zone
- Social Interaction
    - Acts used to direct another's attention to oneself for affiliative purposes
    - Child is not acting solely to meet his own needs

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

- Joint Attention
    - Acts used to direct another's attention for purpose of sharing the focus on an entity or event
    - Skills: referential looking, declarative pointing and showing, looking where others look and point, social referencing
- Communicative Means (ways to communicate)
    - Gestural
        - Conventual gestures: giving, showing, pushing away
        - Distal gestures: waving, pointing
        - Coordination of gestures and vocal acts
    - Vocal
        - Vocal acts without gestures
        - Inventory of different consonants
        - Syllables with consonants
        - Multisyllables
    - Verbal
        - Inventory of different works
        - Inventory of different word combinations
    - Visual
- Reciprocity
    - Respondent acts
    - Rate
    - Repair strategies
- Social Affective Signaling
    - Gaze shifts
    - Shared positive affect
    - Episodes of negative affect
- Symbolic Behavior
    - Language comprehension
    - Inventory of different action schemes
    - Complexity of action schemes
    - Constructive (combinatorial play)
- Social Cognitive Foundations for Language Learning
    - Gaze following
    - Social referencing (ie. visual cliff experiment) are they checking in to see things?
    - Imitative learning of instrumental actions (fake crying to get attention)
    - Perception of intentional actions
    - In addition to cognitive bases of language acquisition… pragmatic/social interactive theories put emphasis on the role of social interaction in language development
    - Children are active participants…
- *There are checklists of communicative means*
- Social Cognitive Skills of Children with ASD
    - Tuning into social world
        - Differences in orientation to social stimuli
        - Do not tune into other people in the more active ways that typical children to
        - Deficit in JA
- Social Cognitive Skills and Language
    - Rely on children's ability to take perspective of social partner
    - Attribute to others mental states
    - Ability and motivation to share those mental states with others

Downloaded by moin khan (moinamb99@gmail.com)

    - Essential to language development
    - Kids with ADHD can sometimes present similar because they are not attending to body language so they are missing out on information
- How do we assess these skills?
    - Some additional measures that are specific to social cognitive deficits
    - CSBS-sets up contexts for kids (bubbles, play, sets up wind up toys)-- looks at communicative function (joint attention, language skills) and then the means (gesturally, verbally, etc.)
        - Assess communicative and social effective symbolic abilities of children whose functional comm age is between 8 months and 2 years
        - Early ID of children at risk for developing communication impairment
        - Many functions should not just focus on requesting (learn how to comment, etc.)
    - ADOS
- Communication and Symbolic Behavior Scales (CSBS)
    - Standardized
    - Assess communicative, social-affective and symbolic abilities of children whose functional communication age is between 8 months and 2 years (can be used chronologically up to 5-6)
    - Used for:
        - Early ID of children who are at risk of developing communication impairment
        - Establishing a profile of communicative, social-affective and symbolic functioning to monitor change in a children's behavior over time and provide direction for intervention planning
    - Measures
        - Communicative functions
        - Gestural communication means
        - Vocal communicative means
        - Verbal communicative means
        - Reciprocity
        - Social affective signaling
        - Symbolic behavior
    - Need to do more than request, they need to deny etc. more than ONE function
- Autistic Diagnostic Observation Schedule- 2 (ADOS-2)- **gold standard for assessing children on the spectrum** (this requires training in order to give)
    - Goal: standardize contexts for observation of behaviors associated with ASD
        - Standardization of content of the observation
        - Thresholds for abnormality in individuals behaviors
        - Interpretation of behaviors in form of providing overall algorithm for diagnosis
    - Each task, a hierarchy of “presses” or social structures is provided
    - Modules (need to select which module to give based on the child's profile)
        - Toddler module (12-20 months), does not consistently use phrase speech (1-2 words)
            - Components
                - Free play- with a ball (looking for: JA, eye gaze, referents, how they are engaging with the ball themselves, turn taking- reciprocity)
                - Blocking toy play
                - Response to name
                - Bubble play- teasing toy play
                - Anticipation of routine with objects
                - Anticipation of social routine
                - Response to JA
                - Responsive to social smile
                - Bath time

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

        - Functional and symbolic imitation
        - Snack
    - Module 1 (31+) does not use phrase speech
    - Module 2- any age using phrase speech but not verbally fluent
    - Module 3- verbally fluent children and young adolescents
    - Module 4- verbally fluent older adolescents and adults
- Developmental Milestone reference on slide 39 on Lecture 4

<u>Preschool Treatment with Children with ASD</u>

- *Emergent Communicator*- communicates primarily through gestures and behaviors, uses primarily non-symbolic forms of communication, communicates primarily for the purposes of fulfilling basic, wants and needs, uses non-intentional forms of communication with the emergence of intentional forms of communication
- *Basic Communicator*- uses symbolic forms of communication including pictures, symbols, single words and simple sentence patterns, communication is primarily intentional and directed toward a variety of communicative partners
- *Atypical Communicator*- communicates using words and novel sentences, uses syntax and morphology that is consistent if not advanced in comparison to age matched peers often times described as quite verbose
- **Review of Assessments of Preschool**
    - ADOS- across age range
    - CSBS- sets up contexts for kids (prelinguistic kids- 6 chronologically) behavioral regulation, social communication, JA, language skills, different means (gesturally, verbally, visually etc.)
    - CELF- Preschool, Pragmatic Profile- checklist, get input from parents, gives you insight to some behaviors
    - Social Thinking © We Thinkers (see BB folder, Michelle Garcia Winters)- looks at kids in context of play and tries to organize how they are behaving, labels them based on development and play
    - IMAGINE (a4mc, disclosure, 1 co-created) (see BB, will expand in school-age lecture)- framework for social groups- checklist that lists behaviors that fall under categories, check how often you see it, used in social groups (can use for progress monitoring- do it at the beginning and then again at 12 weeks) informal tool (paper and app form)
    - Observations in various contexts (use communicative functions checklist)
- **Treatment Frameworks (important for comps)**
    - Theoretical Frameworks- 2 schools of thought
        - **1) Social Pragmatic/Developmental- more child led**
        - **2) Behavioral- less natural, adult led**
        - **There are hybrids that fall in the middle**

Downloaded by moin khan (moinamb99@gmail.com)

Table 1
A Comparison of Intervention Techniques for Naturalistic Behavioral and Developmental, Social-Pragmatic (DSP) Approaches

	Naturalistic Behavioral	DSP
Setting	Natural	Natural
Teaching episodes	Child initiated	Child initiated
Materials and activities	Child selected	Child selected
Target skills	Specific social-communication skills (e.g., two-word phrases, pointing, pretend play schemes)	General social-communication skills (e.g., social engagement, nonverbal communication)
Facilitative strategies[a]	Not a defined component	Adult responsiveness (i.e., contingent imitation, indirect language stimulation, affective attunement)
Elicitation strategies	Environmental arrangement (i.e., in sight-out-of-reach, controlling access, gaining attention)	Environmental arrangement (i.e., communicative temptations, playful obstruction, wait time)
Prompt strategies[a]	Varied according to child's initiation (i.e., physical guidance, modeling, explicit instruction)	Not a defined component
Reinforcement properties	Natural	Natural
Reinforcement contingencies	Loose shaping, reinforce attempts toward target	Reinforce all communicative behaviors

a. Techniques that are not a defined component of one of the approaches.

- Facilitative- big part of it is the adult responsiveness aspect
- **Intensive and early intervention is the most effective regardless of approach**
- Empirical evidence- pure behavioral like ABA are the best studied and the most validated intervention BUT there is controversy around that/why it is so well researched
- Positive teaching strategies (both approaches have same underlying goals-- generalization of skills); difference is underlying philosophy and how they are implemented
    - Behavioral- learned, antecedents and consequences

What interventions are effective?

- Challenges in the Evidence
    - Setting- clinic/school/home etc.
    - Who is delivering the interventions- parent, SLP, ABA, OT
    - What outcomes are measured- what is the desired outcome, goal: say hi (can do it at the table, so can they generalize to outside the house?)
    - Frequency and durations of interventions
    - Who is receiving the interventions- concept of how do we categorize children on the spectrum
    - Who is receiving the interventions
    - Intervention modalities
    - Interventions often aren't done in isolation- not purely ABA, or hybrid; challenging to measure it all; research shows that there isn't one best intervention approach
- Treatment Classification
    - **Comprehensive Treatment Models (CTM)- working on many different things in context)**
        - **SCERTS (Prizant and Wetherby)- social prag developmental**
        - **DIR/Floortime (Greenspan)- social prag developmental**
        - **Pivotal Response Treatment (Koegal and Koegal)- hybrid (more behavioral than social prag)**
    - **Focused Intervention Practice- assess single skill, operationally defined, occur over short time until goal is achieved (ie. working on greetings)**
        - **Prompting**
        - **Reinforcement**

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

        - **Peer-Mediated**
        - **Discrete Trial**
- What helps make treatment effective?
    - Group intervention more effective than individual when working on pure social skills especially in older kids (better context for eliciting skills, one to one on social skills isn't great--when they are past joint attention phase)
        - Including NT peers "may prove to increase effectiveness"
    - Parent involvement shows best generalization
- **Developmental, Individual-Difference, Relationship (DIR) Model -** *comprehensive so can be treatment and assessment* ***DSP INTERVENTION (DEVELOPMENTAL INTERVENTION)***
- Developmental Approach created by Stanley Greenspan and Serena Weider in 1998
    - 18 months to 9 years
    - Methods
        - Family based
        - Child directed
        - Interpersonal development
        - Individual differences
        - Caregiver child relationships
        - Parent and clinician implemented
- Theoretical Basis
    - Based on interdisciplinary developmental model that integrates info from cognitive, language, social, emotional, sensory, motor and interpersonal paradigms of development
    - Like cognitive and social interaction models of language acquisition, it prioritizes role of the child's stages of development and recognizes the parent-child interaction as key to understanding the developmental process
    - UNLIKE these models, DIR considers the child's emotional experiences as foundational, with emotional exchanges leading the symbol formation and intelligence
    - Focus on emotional components
- DIR continued…
    - Targets (FEDLs)
        - Shared attention and regulation
        - Engagement and relating
        - Two-way intentional communication
        - Complex problem solving
        - Creative representations and elaboration
        - Representational and emotional thinking
    - DIR Paradigm- one area of developmental really impacts another
        - Child's functional emotional developmental level (D)
        - Child's individual processing profile (I)
        - Relationship between the child and his or her caregivers(R)
- DIR Assessment
    - Team approach
        - Physician
        - Mental health professional
        - SLP
        - OT
- DIR vs. Floortime **developmental intervention**
    - Often used interchangeable (this is a mistake)-- floortime is a strategy that is specific to the DIR and DIR is more the overarching category

Downloaded by moin khan (moinamb99@gmail.com)

- DIR- comprehensive model of assessment and intervention
- Floortime- a therapeutic strategy that is specific to the DIR approach (a lot of parent coaching, teaching them what to do)
    - It describes the spontaneous, developmentally appropriate, often one to one interactions during which the six FEDLs are mobilized
    - Floortime principles examples: prioritizing the child's intentions and ideas, using supportive rather than directive teaching, addressing individual sensory processing needs

- Development of the Language Paradigm of the DIR Model
    - Described in the ICDL-DMIC (2005)
        - Self regulation and interest in the world (birth to 3 months)
        - Forming relationships and effective vocal synchrony (2-7 months)
        - Intentional two way communication (8-12 months)
        - First words- sharing meaning in gestures and words (12-18 months)
        - Word combinations- sharing experiences symbolically (18-24 months)
        - Early disclosure- reciprocal symbolic interactions with others (24-36 months)
    - Modalities- at each language level development that is typical of selected modalities is considered
        - Shared attention
        - Affective engagement
        - Reciprocity
        - Shared intentions
        - Shared forms and meanings
        - Emerging discourse
        - Sensory processing and audition
        - Motor planning
        - Each considered central to process of acquiring language and to being a successful communicator
- Practical Requirements
    - Optimally 6-8 20 min, individual sessions throughout the day
    - If young- in the home with parent being coached by professional
    - Individual needs and priorities
    - Certified individuals
    - Working in teams
- Empirical basis
    - "Emerging" having some evidence of effectiveness, but not enough to be confident that they are truly effective
    - Growing number of intervention studies that address the impact of teaching parents to use responsive social interaction strategies in the playful exchanges with their children

Joint Attention Intervention- behavioral and developmental (HYBRID approach)

- Behavioral and developmental perspective
- Ages 3-5 years
- Methods
    - Directed instruction
    - Individualized
    - Intensive
    - Milieu teaching
    - Parent and clinician implemented
- Targets
    - Response to spontaneous initiation of JA
- JA routines are important activities that support communication through engaging play and activities
- Typically developing children develop language and social skills during these interactive games

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

    - JA attention is a core deficit of ASD
- JA and Joint Engagement
    - JA- refer to a specific set of gestures and used for sharing
    - JE- when 2 people are actively interacting with an object or activity of interest
        - The overarching quality and connectedness of the interaction
        - Varying qualities of interaction (engagement states)
            - Unengaged
            - Object engaged
            - Person engaged
            - Supported joint engagement
            - Coordinated joint engagement
- JA Skills
    - JA Skills- used to direct attention to objects but not necessarily to obtain objects or events
    - Nonverbal JA skills or gestures are
        - Coordinated joint looks
        - Showing an object
        - Giving to share
        - Pointing to share an interesting sight
    - Responds to JA
        - Following point
        - Following gaze
- Children with ASD
    - Marked differences in communication
        - Many of these skills involved JA skills
        - Communicative development: may develop functional (ie. requesting) and social aspects of communicative separately, whereas typically developing children tend to learn both of these communicative functional methods concurrently
        - Studies have shown that children with ASD use gesture to communicate
    - Rationale
        - Ability to JA skills correlates with later verbal outcomes of young children with ASD
        - Research states JA skills is a critical milestone for language development and may mark beginning of the social cognitive development necessary for language acquisition
        - Predictive of language outcomes
- Practical Requirements
    - Original intervention model taught JA in 2 different contexts: table activity and floor play teaching… this was phased out after research supported naturalistic floor play context
    - Current JA approaches
        - 30 minute sessions daily for 6 weeks can result in significant improvement in play and JA skills for children with ASD
        - Parent mediated models suggests that 24 half hour sessions (3x week) can also result in significant benefits in JA and JE
        - Materials: developmentally appropropriate toys, tx manial
- Empirical Basis
    - Research shows the social communication of JA acts are developed through routinized social games
        - Some behavioral programs may be detrimental to teaching the functions of communication'
- JA Goals
    - Improve language skills in children by increasing the fx of their spontaneous initiations of JA
    - Evaluation of skills through: modified checklist for autism in toddlers (M-Chat), Language use inventory for young children (LUI) → goals developed from assessment

Downloaded by moin khan (moinamb99@gmail.com)

- Goals are addressed in the context of play
    - Strategies
        - Setting up the environment
        - Follow the child's lead
        - Scaffold skills
        - Expand language
        - Imitate
        - Prompt hierarchy if necessary **

Discrete Trial Instruction (DTI) *does not generalize as well and very robotic, not natural* ***BEHAVIORALIST INTERVENTION***

- 4 components
    - Discriminative stimulus (ie. instruction)
    - Response
    - Consequence- how appropriate is the consequence
    - Intertrial interval (ie. extremely brief break)- decide where these trials happen (structured vs. random)
- Helps kids get ready for learning
- Can be applied in diverse ways, no single approach
- Often used in conjunction with other behavioral strategies (ie. prompts) or as part of a comprehensive treatment approach (modeling, shaping, antecedent strategies)
- DTI, differential reinforcement (ie contingent reinforcement), and shaping are robust techniques that can be applied to any number of skills and a wide variety of populations
- Used in a wide range of settings
- Extensive research exists supporting the use of DTI in teaching individuals with ASD
    - Included evidence to support its use with individuals with significant cognitive impairments and limited verbal output
- No real test to determine appropriateness of approach but assess child's preparedness to learn
- Observe ability to accept objects, respond when others have control over reinforcers, scan objects, imitate others, follow simple directions, sitting down without engaging in self stimulatory behaviors
- If child lacks these skills, other behavioral interventions are put in place to develop those skills
- Tests to target communication and social skills
    - Assessment of basic language and learning skills (ABLIS-R)
    - Verbal behavior milestones assessment and placement program (VB-MAPP)
- Theory of Behavior Analysis
    - Skinner
        - Behavior is lawful
        - Occurs through processes
            - **Classical conditioning**
            - **Operant conditioning- what we focus on**
        - Operant conditioning: learning that occurs as a result of an interaction between behavior and its consequences
        - The importance of planned and unplanned consequences on human behavior cannot be emphasized strongly enough from the behavior-analytic perspective
        - Antecedents- events the precede a behavior (ie. instruction) where we have to teach something before we can elicit something
    - Behavioral tech. Are used to decreased excesses such as self injury and aggression or to ameliorate impairments such as communication and academic skills or social skills (focus on stopping behavior, identifying what is problematic)
    - **What can be problematic about stopping behavior- encouraging people to mask behavior (suppress something that they may need to do → stress and mental health), stopping a soothing behavior to**

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

regulate, extinguishing something that might be regulating, most of the behaviors are communication based (its happening for a reason)
    - **Important to consider the context of these behaviors (if someone is trying to suppress the behaviors in the classroom, we need to understand it; we should focus on helping the behavior to make sure it is appropriate--- we are no longer extinguishing behaviors but choosing to understand them and help the child in certain contexts)**
        - Sometimes rely on: DTI, differential reinforcement and shaping
        - Differential reinforcement- providing contingent access to reinforcers- that is, reinforcers are available when the individual engages in predefined appropriate behaviors but not when he/she engages in predefined inappropriate behaviors
        - This can be used in isolation or also in the connect of DTI
- Applied Behavior Analysis (ABA): field of study that involves the collection of data to assess the systematic modification of environmental conditions (not one method, examples fall under it), works for some kids, covered by insurance usually
    - These modifications are designed to produce socially significant improvements in the lives of children and adults
    - DTI is a component of ABA (under it)
        - Teaching a child to attend to specific environmental cues to improve responding in a very circumscribed set of conditions
        - Important component of ABA when serving children who learn best in highly structured situations
- To consider with DTI:
    - Instructor needs to have control over the teaching environment
    - Instructor needs to understand the child's skill level in order to structure discrete trials so child likely gains access to reinforcers (prompting to get them there)
    - Maintaining child motivation is critical when teaching
        - Maintenance interpersonal: intermingling of mvel task with mastered tasks
        - Choice of task or reinforcers
- DTI: verbal behavior
    - Involves strategies for teaching individuals to improve communication
    - Strategies emanate from ABA
    - Child's mastery of treatment targets requires that the communication strategy be used in appropriate context and serves a specific purpose
    - 6 elementary verbal behaviors (operants)
        - Mand
        - Tact
        - Echoic
        - Intraverbal
        - Textual
        - Transcription
- Empirical Basis of DTI
    - Researchers have built an impressive body of literature supporting the use of behavioral strategies for the treatment and education of people with ASDs
    - DTI demonstrated as an effective tools for teaching children with ASD a wide variety of skills (expressive language, motor imitation, play skills, joint attention, social skills)
    - Still controversy because initially used IQ tests, kids were not randomly assigned, profiles of kids in program were not defined and many were verbal (studies might not be very valid today)

Pivotal Response Treatment (PRT) HYBRID APPROACH

Downloaded by moin khan (moinamb99@gmail.com)

- Play based intervention approach that utilizes ABA techniques and a developmental perspective to target the core impairments of autism
- More play based, looks at development of skills
- Comprehensive service delivery model
- Focuses on teaching all important individuals in child's life to increase intervention hours- (every waking moment is a teaching moment- lots of training to parents)
- Parents are seen as primary interventionists
- Originally developed to teach language skills to children with ASD- over the years it's been useful for teaching a variety of skills to the "spectrum" of ASD as well as language and cognitive delays
- Strategies based on PRT can be used to teach first words, basic social skills, help develop more sophisticated language and social skills
- **NO standardized assessments available to determine applicability of PRT** to specific populations or individuals
    - Use developmental, adaptive behavior and language assessments to determine skill level
- Sherer and Schreibman (2005)- found distinct behavior profiles for kids who responded positively to PRT
    - Moderate to high interest in toys
    - Tolerated another person nearby
    - Low to moderate rates of nonverbal stereotyp (repetitive ritualistic movement/utterance)
    - Moderate to high rates of verbal self-stimulatory behavior
- Following intervention, increases in raw scores of language assessment, appropriate toy play and language during structured social settings
- Theoretical Basis of PRT
    - Pivotal areas- areas that, when targeted lead to large collateral changes in other often untargeted areas of functioning and responding
        - Once acquired results in widespread and generalized improvements in children with autism
    - Primary goals
        - Move child toward TD trajectory by targeting broad areas of functioning and providing opportunity for the individual to live and function in inclusive environments
        - Incorporates- child choice, turn taking, direct and natural reinforcement
    - 4 aspects of PRT that provide theoretical basis for its use
        - Family involvement in design and delivery of intervention
        - Treatment in natural environments
        - Treatment of key pivotal behaviors
        - Implementation in home and school environments
            - Want to make tasks that have a meaningful context (set up an ice cream store and have them request/ask what they want)
- Key Pivotal Behaviors
    - Motivation
        - Initial goal of PRT is to promote skill development by eliminating learned helplessness using motivational strategies that force child's exposure to the response- reinforcer contingency
        - Based on the premise that the more motivated child is, the more likely they are to to engage in the teaching activity and with people around them
    - Responsivity to multiple cues
        - Children with ASD often demonstrate overselectivity, they attend to one cue or part of a stimulus (theory of central coherence), even if irrelevant cue (eyeglasses of someone, visual vs. verbal info)
        - Stable over time and unlikely to change without intervention
        - Overselectivity may have an impact on the development of social behavior, language acquisition, learning of new behaviors, generalization and safety

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

    - Self-initiations
        - Initiations- verbal or nonverbal behavior that a child directs toward another person that is not preceded by instructions to talk or do something
        - Various types of initiation- independent requests, initiation via question asking, initiations for play, social conversation, join attention, etc.
        - Children with ASD often don't initiate to the extent necessary to create and sustain interactions
    - Self-management
        - Ability to independently monitor one's own behavior and respond using a desired or target behavior
        - Self management increases both responsiveness to the environment and the likelihood that the child will experience natural reinforcers for responding
    - Have been focus of considerable research
- Empirical Basis
    - Since late 1970s, large body of evidence supporting PRT has accumulated
    - Previously known as: Natural Language Paradigm
- Designed to easily integrate into the families current routines
- No specific requirements for who can effectively use, need training on the technique 25-30 hours
- Designed for typical environments
- PRT Key Components
    - Flexible therapy
    - Typical goals: receptive/expressive, spontaneous language, play and social interaction, self help, pre academic and academic concepts
    - Goals targeted sequentially but individualized
    - Data for decision making (parent and child data)
    - Appropriate for culturally and linguistically diverse backgrounds
- Examples of Treatment Materials that Meghan uses
    - WeThinkers by Social Thinking
    - IMAGINE social checklist and app activity (Meghan developed this program), all4mychild
    - Storybooks
    - Games

School Age Assessment and Intervention

Assessment of School Aged

- Assessment of Speech Production- do not have good evidence for incidence of speech sound disorders within this population

Treatment of School Aged-- hard to standardized social behaviors which is why checklists are more common than standardized measures (most children with higher language skills do well on these tests which is why it is important to contextualize what you are doing)

- Pragmatic Protocol
- Children's Communication Checklist
- Double Interview
- Theory of Mind Tasks
- Thinking with Our Eyes
- PLAI- inference and problem solving, doesn't allow child to get into "set" (50 things that just keep switching, much more similar to discourse)
- TOPS (test of problem solving)
- TPL
- CASL- higher level language skills (syntax and working memory), inference, use in public schools with higher level kids

Downloaded by moin khan (moinamb99@gmail.com)

- Social Language Development Test
- SCERT, SAP-

Enhance Milieu teaching with Children with ASD (HYBRID APPROACH- behavioral and developmental approach) EMT--- good approach for early language learning; can use with voice output devices (don't need to communicating verbally just yet)

- Established level of evidence
- Used with children aged 3-9
- Typically children:
  - Verbally imitative when prompted (can use recasting, language models, etc.)
  - Productive vocabulary of at least 10 words
  - MLU 1.0-3.5
- Appears to be highly effective with children who are in early stages of language learning
- 4 Components
  - Environmental Arrangement- set up environment for child to initiate interaction
  - Responsive Interaction- adult model's the target
  - Modeling of child's targets and target level language
  - Milieu teaching prompts

Table 8.1. Rationales for the components of enhanced milieu teaching (EMT), with examples

EMT component	Rationale	Examples
Environmental arrangement	Promote child's requesting	Present choices of snacks or give the child a little bit of the snack at a time to promote verbal requests.
	Promote child's engagement to maintain and extend child's play and interaction with adult	Provide additional materials to extend play—such as water when playing with the farm, so the child can give the animals a bath or a drink.
	Prevent and manage child's behavior problems by arranging physical surroundings	Designate a play space with a physical cue, such as a carpet square; limit the number of toys/materials that are within the child's reach.
Responsive interaction	Engage child in positive interactions	Follow the child's play or conversational lead so there is no pressure for the child to "perform."
	Prime child for responding	Mirror the child's actions and verbally "map" corresponding language, both of which support the child in orienting to adult communication.
	Maintain space for child to engage in conversations	Pace the interaction so there is plenty of time (at least 5 s) for the child to participate as an equal conversational partner.
	Reinforce child for any and all communication attempts	Respond contingently to any verbal, vocal, or nonverbal child turn.
Modeling of child's targets and target-level language	Provide child with salient, specific models of target language	Model all of the child's selected language targets in the context of the child's interests.
	Prime child to imitate targets spontaneously	Expand the child's responses by embedding the selected targets before prompting these targets with EMT procedures.
Milieu teaching prompts	Support child in acquiring new forms	Provide a model prompt to teach the child unknown labels for fruit the child enjoys for a snack.
	Support child in making verbal choices	Provide a visual choice of apples and melon, using the labels for each in the choice question.
	Support child in answering questions	Ask the child what fruit he or she wants for a snack.
	Cue child to initiate a more elaborated request	Hold up the melon and wait for the child to request it using his or her selected language targets.

always the best indicators of children's functional communication skills. Children with ASDs may have an inflated MLU if they frequently use rote phrases that are longer than their more functional, spontaneous speech. We ask parents to list their children's rote phrases, and we exclude these phrases when estimating the number of different words produced and MLU based on transcripts of interactions analyzed with SALT. This approach provides a more accurate estimate of the complexity and variety of children's functional language as a basis for selecting targets for teaching.

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

- Theoretical Basis of EMT
    - Represents a contemporary applied behavior analysis (ABA) model AND a developmental pragmatic communication approach
    - Contemporary ABA interventions include
        - Incidental language teaching
        - Natural-language paradigm
        - Milieu teaching
    - Developmental pragmatic communication approach
        - Adult-child interactions with shared affect and verbal turn taking
        - Adult scaffolding of children communication attempts to make more meaningful
        - Teaching communication with activities of interest (motivation)
    - Parent and child influenced by context
    - Provides framework within children with ASD viewed as bringing a set of early social, cognitive and communicative skills to the interactions in which more complex forms of social communication will be taught
    - Children with ASK generally speak less often, are less likely to seek out a communication partner, use fewer words, and have greater difficulty understanding the meaning of parent talk
    - Can have mismatch with parent linguistic input (must be tailored)
    - Responsive interaction strategies (following child's lead, equal turn taking, language modeling and expansions) are associated with better language development outcomes when children have significantly delayed language including children with ASD
- Empirical Basis of EMT
    - Therapist implemented
    - Parent implemented
    - Jointly parent and therapist
    - Practice requirements- training significant time commitment

- **Picture Exchange Communication System (PECS) BEHAVIORAL INTERVENTION**
    - Emerging level of support
    - Behavioral Intervention
    - Used with individuals aged 3-17 years old
    - Aided picture/icon based augmentation system designed for individuals who are nonverbal or have limited verbal abilities (use a picture to request something, focus on initiating and requesting)
    - Created by 1985 by Bondy and Frost
    - Focus on instructing individuals with impairments to initiate contact with others to obtain preferred items or activities

Downloaded by moin khan (moinamb99@gmail.com)

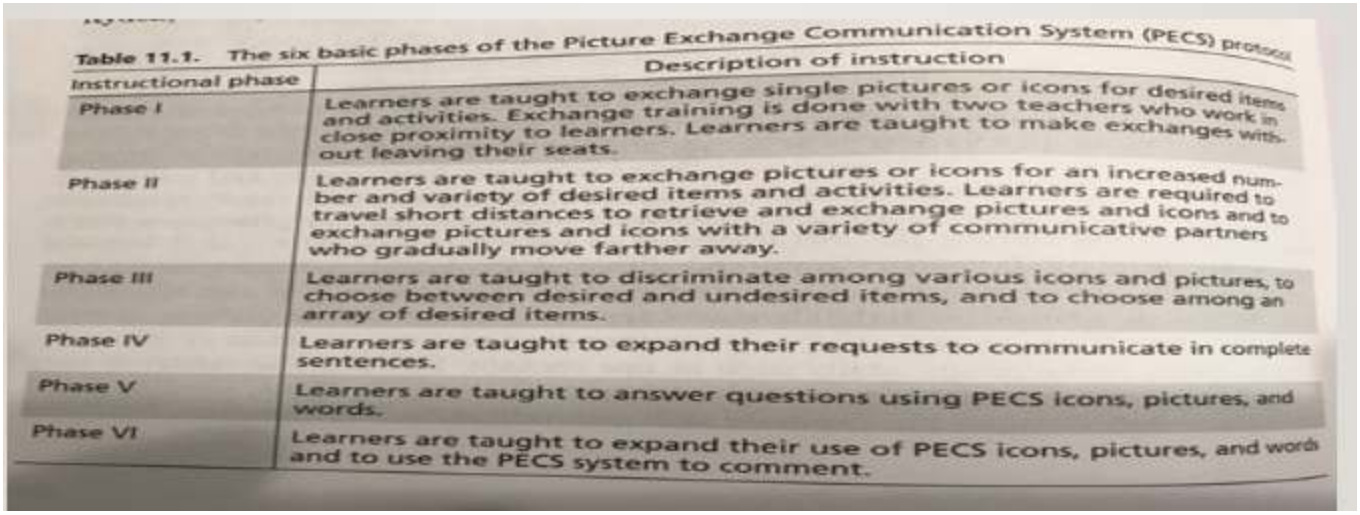

Table 11.1. The six basic phases of the Picture Exchange Communication System (PECS) protocol

Instructional phase	Description of instruction
Phase I	Learners are taught to exchange single pictures or icons for desired items and activities. Exchange training is done with two teachers who work in close proximity to learners. Learners are taught to make exchanges without leaving their seats.
Phase II	Learners are taught to exchange pictures or icons for an increased number and variety of desired items and activities. Learners are required to travel short distances to retrieve and exchange pictures and icons and to exchange pictures and icons with a variety of communicative partners who gradually move farther away.
Phase III	Learners are taught to discriminate among various icons and pictures, to choose between desired and undesired items, and to choose among an array of desired items.
Phase IV	Learners are taught to expand their requests to communicate in complete sentences.
Phase V	Learners are taught to answer questions using PECS icons, pictures, and words.
Phase VI	Learners are taught to expand their use of PECS icons, pictures, and words and to use the PECS system to comment.

    - Assessment to determine if it is a useful approach...
        - Communicative intent (communicative forms and communicative functions)
        - Interaction skills (JA, interaction-related initiations and responses)
        - Environmental considerations (learners preferences for communicative partners and settings)
    - Informal interviews with parents, educators, caregivers etc.
    - Direct observations
    - Standard assessments of language and communication
    - Theoretical Basis
        - PECS is designed to explicitly address fundamental and pivotal communication problems namely, the failure to initiate communication
        - Long term outcomes are closely aligned with development of functional communication skills- so initiation of communication is important
        - Pivotal ASD-related characteristics and challenges form foundations for PECS
          Systematic approach to teaching functional communication skills- parallels spoken language
        - Underpinnings of PECS is behaviorism and ABA
        - In accordance with ABA
            - PECS based on notion that verbal and nonverbal communication skills are learned behaviors that are controlled by environmental factors
            - Incorporates prompting, modeling and shaping, direct observation assessment, collection of data, systematic data analysis
        - Reliance of visual learning (visual and graphic symbols)
        - Direct reinforcement system
    - Efficacy Studies
        - Children with receive PECS tend to benefit from experience
            - Increased functional communication initiations
            - Increased vocalizations
            - Improved interactions with others
        - However, many questions about efficacy exist
    - Requirements for PECS
        - Individualized reinforcers and corresponding pictures/icons
        - Training available through pyramid educational consultants
            - Certification, pass a written exam, demonstrate a set of skills
- **Social Stories**
    - Established level of support
    - Social pragmatic intervention method

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

- Used with individuals aged 6-14 years old
- Created by carol gray in 1993
- One of the most popular intervention strategies to remediate core impairments of ASD
- Carefully written, individualized stories designed to facilitate social understanding in individuals with ASD
  - Direct access to social information
- Typical format
  - Storybook like
  - Simple sentences and a title
  - Usually visual supports (line drawings, icons, photographs, videos)
- Goal: share information in the context of a challenging situation
  - Description of where, when, who, what happening and why
  - Suggestions of expected behaviors
  - Nonthreatening, positive, patient and non judgemental support, preservation of self-esteem (instead of saying "don't hit" we are gonna say "use safe hands")
- Theoretical Basis Social Stories
  - Improved understanding of events and expectations
  - Theory of Mind
  - Weak central coherence
  - Challenges with schema
- Key Components to a Social Story
  - Determine a topic (data collection to discover NOT invent a story topic)
  - Gather individualized information (ie. functional behavioral assessment)
  - Develop the social story
    - Sentence types
      - Degenerative sentences
      - Perspective sentences
      - Sentences that coach the audience
      - Sentences that coach the team
      - Self coaching sentences
      - Affirmative sentences
      - Partial sentences
    - Consider additional supports
    - Review and share the social story
    - Introduce, comprehension checks and revisions, data collection

- Meghans Favorite Treatment Materials
  - Social Behavior maps (Social Thinking)
  - Incredible 5 Point Scale, Levels
  - Children's literature
  - thinking/speaking bubbles
  - Board games/apps: who knew, headbandz, bag game, race to the treasure, obstances, stone soup

School- Aged Assessment and Intervention continued…

<u>Video Modeling- HYBRID Approach</u>

- Establish level of research
- Behavioral and developmental approach
- An instructional method in which an individual develops a skill or behavior by viewing images of someone demonstrating that skill of behavior
- Make sure you have consent from parents

Downloaded by moin khan (moinamb99@gmail.com)

- Model can be: peer, an adult, an animation, video self-monitoring
- Age range 3-18 years
- Used to teach new skills or behaviors, improve skill or behavior, replace or extinguish challenging behavior
- Demonstrated behavior is always positive...it isn't what NOT to do- it's a positive behavioral support
- Effective across age range (with expectation of below 3), some evidence that severe ASD with severe cognitive difficulties may not benefit from video modeling (Buggey, 2009), but ample evidence can be effective with mod-severe range of spectrum
- Can be used in conjunction with other interventions or be the primary intervention
- 3 main types of video modeling:
    - adult/peer modeling
    - Point of view modeling
    - Self-modeling
- Time commitment to make videos
- Theoretical Basis
    - Support by several lines of research and theory (see text for references)
    - Research specific to use with ASD and anecdotal evidence form families using this approach to teach at home
    - Temple grandin (professor, individual with ASD) on why video modeling works:
        - Video images are not socially threatening
        - People with ASD primarily visual rather than language based thinkers
    - Self efficacy
    - Changes in physiology
    - Few limitations on what can be addressed… if it is observable and measurable, it can be depicted in video format
    - Most of research focussed on social skill training including recognizable emotions on faces, expanding time engaged in play, and training social language skills
    - Some research attempts to train academic skills using video modeling
- Empirical Basis
    - Research base growing rapidly
    - Almost unanimous positive outcomes across a range of behaviors and ages
    - Some challenges with evaluating efficacy when VM is paired with other intervention approaches-hard to tell which was the contributing factor to changes
    - Bellini and Akullian (2007) suggested that video modeling using self or others was successful in training social, language and functional skills in children with ASD
    - See text for research on: Adult Models, Peers and Siblings as Models, Computer-Based Modeling Programs, Animated Models, Self as Model
- Practical Requirements
    - Camera and mean to view it
    - iMovie or Movie Maker to edit
    - Time (type of behavior address, cooperation level of actor, type of video modeling used)

<u>Social Thinking for School Aged and Adolescents</u>

- Thinking about you Thinking About Me (book with assessment and treatment ideas)
    - Social behavior maps
- You're a social detective- use clues, what is body telling us, "reading the room"
- Incredible flexible you (incredibles)
- Think sheets for teens
- Socially curious and curiously social (adolescents)

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

FOR MIDTERM
-know the 5 articles
-DSM
-history of ASD, how we got to where we are
- Neurodiversity
-preschool
-school age
MC and short answer

Treatment Approaches for Preschool and School Age

Developmental Social Pragmatic	Hybrid	Behavioral
DIR/Floortime- Developmental, Individual-Difference, Relationship PS	Joint Attention PS	DTI- Direct Trial Instruction PS
Social Stories SA	Pivotal Response Treatment PS	PECS- Picture Exchange Communication System SA
	Enhanced Milieu Teaching SA	
	Social Thinkers PS	

PS- preschool
SA- school age

Preschool eval
ADOS (gold standard), CSBS, CELF-P (prag profile), MCHAT, DIR (assessment), We Thinker (social)

Articles to Know:

1) **Disparities in the Identification and Diagnosis of Autism Spectrum Disorder in Culturally and Linguistically Diverse Populations.**
    a) Early identification and intervention services play a critical role in determining the degree of communication development in children with autism spectrum disorder BUT african-american and hispanic populations are less likely to be diagnosed with ASD and often receive initial diagnosis at later stages and experience differences in access to services; lower participation rates of minorities in studies of ASD
    b) All of this taken together has contributed to disparities in services for children with autism from culturally, linguistically, economically diverse backgrounds
        i) Purpose of the article- discuss disparities in identification and diagnosis of children with ASD from diverse backgrounds
    c) Findings
        i) Disparities in Identification
            (1) White children had higher prevalence rates when compared to Hispanic children, Asian/Pacific Islander children, and to non-Hispanic Black children
        ii) Disparities in Diagnosis

Downloaded by moin khan (moinamb99@gmail.com)

(1) Factors that may delay an early diagnosis include interactions with healthcare and education, socioeconomic status (SES), race and ethnicity, and the awareness and perceptions of parents/caregivers.
(2) Differing experiences with the healthcare system with some parents reporting that their primary care provider did not adequately address their concerns. Further, Zuckerman et al. (2014b) found that limited English proficiency negatively impacted the ability to discuss concerns and make appointments. A lack of interpreters or poorly trained interpreters was noted as a barrier as well (Zuckerman et al., 2014b).
(3) White children receive diagnosis earlier and have to wait less time to receive the diagnosis
(4) Limited parental knowledge, lower SES backgrounds might have had challenging life experiences that may attribute to child's diagnosis, healthcare professionals ,ight mot provide adequate info regarding role of genetics in ASD.
(5) Impact of family characteristics like limited English proficiency, perceived lack of empowerment to advocate for services, limited financial resources, jobs with flexible schedules.

iii) Disparities in Research Participation
(1) Studies have documented the fact that culturally and linguistically diverse populations are underrepresented in research studies across disciplines.

iv) Clinical Implications and Recommendations
(1) SLPs should encourage parents and caregivers to report any developmental concerns to their healthcare professionals and to discuss with their pediatrician specific screenings for ASD at 18-month and 24-month periods and well-baby check-ups. Educational evaluations and individual education plans should be shared with the child's healthcare provider to facilitate continuity of care and access to other health services and benefits.
(2) SLPs have an important role in screenings and diagnostic developmental evaluations for ASD to determine if a child has ASD, but should review the guidelines for scope of practice when it comes to making a diagnosis.
(3) SLPs should use evidenced-based strategies to provide services to bilingual populations
(4) Checklist that includes family centered care, cultural competence, and a strengths perspective.
(5) Use of translators to address language barriers; raise levels of awareness in these cultures and communities that are unfamiliar with ASD due to lack of resources.

2) Assessing Gestures in Young Children with ASD

a) Purpose: determine whether scoring of the gestures point, give, and show were correlated across measurement tools used to assess gesture production in children with ASD
i) Investigated whether scoring of the gestures point, give and show, which may be used to initiate episodes of JA and regulate the behaviors of others, were correlated across the ADOS, ESCS (early communication scales), and CDI-WG

b) Discussion:
i) Results revealed that no one measure correlated with any of the other measured across all 3 gestures
ii) Differences were noted in these measures across vocabulary subgrounds
iii) Pointing was the gesture that was the most notable differences in definition across measurement tools, pointing was correlated across all 3 measures
iv) Giving was correlated for the CDI-WG and the ESCS for the sample as a whole, with the highest proportion of children (78&) producing more than one giving gesture during the ESCS as compared to the ADOS and CDI-WG

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

v) Showing, which has the most consistent definition across measurement tools, was correlated across the ADOS and ESCS for the entire sample
vi) Showing is less likely to be observed during a single time point
vii) The findings that children were less likely to produce JA and behavior regulation is consistent with previous research
viii) Overall these findings suggest that gesture performance may be influenced by a variety of factors

3) **Use of the ADOS for Assessing Spontaneous Expressive Language in Young Children**
   a) Purpose: the current study compared the spontaneous expressive language of children with ASD across multiple language sampling contexts: ADOS and play with an examiner or parent
      i) Examine the effects of language sampling context in a heterogeneous sample of young children with ASD on the amount of language produced, in terms of total utterances, and on language performance, in terms of phonology, vocabulary, grammar, and pragmatics.
   b) Discussion:
      i) In comparing language samples collected during the ADOS, examiner-child play, and parent-child play, we also examined the extent to which categorization of children into developmental language phases
      ii) The ADOS resulted in fewer total utterances than either play session language sample- this suggests that transcribing 15 minutes of an ADOS administration may not yield as much information about a child's language abilities because of the small number of utterances obtained relative to language samples drawn during more traditional play samples with an examiner or parent of equal length in time
      iii) A larger portion of utterances analyzed during the ADOS occurred during Free Play- administered first and had some open ended communication opportunities
      iv) Other activities yielded very few utterances due to their short duration
      v) Limitation of the ADOS as a language sampling contexts is likely to be that its primary purpose is not language sample elicitation
      vi) Beyond the amount of language produced, performance based on the ADOS yielded lower intelligibility, fewer different words, lower MLU and fewer requests, comments and instances of turn taking than the play based language samples
      vii) Performance based on the ADOS was more likely to lead to classification of participants into a lower developmental language phase relative to a play based context→ therefore may underestimate abilities for some domains in the spoken language benchmarks framework
   c) Conclusions: the ADOS tended to result in lower scores for the amount of language produced as well as structural and pragmatic language

4) Patterns and Predictors of Language Development from 4-7 years in verbal children with and without ASD
   a) Study described patterns and predictors of language development from 4 to 7 years in verbal children with autism spectrum disorder. Children with typical language and language impairment were used for comparison. Children with **ASD and LI had similar mean language scores that were lower on average than children with TD.** Similar proportions across all groups had declining, increasing and stable patterns. **Language progressed at a similar rate for all groups, with progress influenced by IQ and language ability at 4 years rather than social communication skills or diagnosis of ASD.** These findings inform advice for parents about language prognosis in ASD.
   b) RESULTS
      i) **LI:** Children with LI more likely to have a greater number of children living at home with parents who had not completed high school and who were not married compared to TD group; more socially disadvantaged than both TD and ASD groups; higher scores than those with TD on peer problem measures; receptive and expressive language scores lower than TD

Downloaded by moin khan (moinamb99@gmail.com)

ii) **TD:** Children with TD had much higher nonverbal IQ than children with LI
iii) **ASD:** Children with ASD had higher scores on social measures indicating greater social difficulties, receptive and expressive language scores lower than TD group

c) Three main patterns in language development for children with ASD
   i) Declining, accelerating and stable were found for receptive and expressive language in children with ASD from 4 to 7 years. The majority of children with ASD had stable patterns with scores, remaining within one SD of their previous standard score from 4 to 7 years.

d) No significant differences between the 3 groups in the proportions of children who demonstrated declining, stable and accelerating patterns in receptive and expressive language.

e) DISCUSSION
   i) While there was variation in the type of language pattern observed in 3 groups, all were pretty similar in the proportions of children with declining, maintaining, and accelerating patterns from 4-7 years.
   ii) ASD- 81–85% had relatively stable standard scores in receptive and expressive language respectively from 4 to 7 years and most improved communication functioning over time.
   iii) ASD had lower mean scores in receptive and expressive compared to TD but higher than LI (progress over time was similar)
   iv) ASD did not predict a greater difference in receptive relative to expressive language
      (1) Receptive and expressive language ability and nonverbal IQ at 4 years were found to be important predictors of language at 7 years.
   v) Socioeconomic disadvantage predicted lower receptive but not expressive language at 7 years in this study. We might hypothesise that receptive language development is more sensitive to the language environment than expressive language
   vi) Social ability at 4 years did not predict language at 7 years

5) The Effects of Shared Reading Intervention on Narrative Story Comprehension and Task Engagement of Students with ASD

a) Purpose: investigate the effects of a shared reading intervention on narrative story comprehension and task engagement of 3 students with ASD

b) Discussions:
   i) Findings of this study indicated that all participants demonstrated improvements in narrative comprehension through the shared reading intervention package
      (1) Intervention package- before, during, and after reading strategies
   ii) Due to high levels of task engagement during both baseline and intervention phases, only one of the 3 participants demonstrated a function relationship between the shared reading intervention and the percentage of intervals with on-task behaviors
   iii) All participants were able to maintain improved reading comprehension skills over time
   iv) Supporting the activation of prior knowledge on the topic and prediction of the story helped students with ASD comprehend the narrative text
   v) Support providing visual cues to students with ASD to stop decoding and directing them to think about important content, which can help them promote narrative reading comprehension (stop signs on pages)
   vi) Story retelling can promote reading comprehension
   vii) Students demonstrated similar or higher levels of engagement despite the increased mean duration of intervention sessions

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

fill out

ASSESSMENT	Emergent Communicator (or prelinguistic)	Basic Communicator	Atypical Communicator
Language (Rec/Expressive)	ADOS PLS-5 MacArthur Bates CELF-P	ADOS PLS-5 MacArthur Bates CELF-P	ADOS
Pragmatic/Joint Attention	ADOS CSBS Communicative Functions Checklist PLS-5 CELF-P-Pragmatic Profile M-CHAT	ADOS CSBS PLS-5 CELF-P- Pragmatic Profile	ADOS
ToM			
Emotional Recognition			
Social Problem Solving			TOPS
Social Skills			CASL

Downloaded by moin khan (moinamb99@gmail.com)

Play and Friendship Skills	ADOS Westby Play Scale WeThinkers/GPS	ADOS WeThinkers?GPS Westby Play Scale	

INTERVENTION	Preschool	School-Aged	Adolescent/Adult
Pragmatics/Joint Attention	Discrete Trial (DTT) Pivotal Response DIR/Floortime Joint Attention WeThinkers		PRT Social Stories Enhance Milieu teaching PECS
ToM	Story Books		PECS
Emotional Regulation	Story Books		
Social Problem Solving	WeThinkers Social Thinking Role-Play		Social Stories

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

Play/Friendship skills	Discrete Trial (DTT) Pivotal Response DIR/Floortime		Enhance Milieu teaching

CONCEPTS, TERMINOLOGY, AND RELATIONSHIPS
Be prepared to provide definitions for the following terms and/or describe how two or more concepts/terms are related:
Intervention approaches:
Discrete Trial Instruction
Joint Attention Intervention
DIR/Floortime
Enhanced Milieu Teaching
Pivotal Response Treatment
Social Stories
Theoretical frameworks for intervention approaches
DSM Criteria for ASD and Social Communication Disorder
Incidence and Prevalence of ASD
Risk Factors for ASD
Co-occurring conditions
History of ASD
Controversies
Cognitive Theories underlying ASD (e.g. Weak Central Coherence, EF, etc.)
Diagnostic Tests for Infants/Toddlers/School Aged
Language profiles for ASD Social communication components, benchmarks and assessment of
Articles (know the "take away" from the following):
Invisible Girls
ADOS and language
Gesture Social Pragmatic vs. behavioral approach article (lecture 6)

SAMPLE QUESTIONS Some of these questions may appear verbatim on the exam. There may also be other questions not listed below. Questions may be in the form of multiple choice, short answer, matching and/or fill in

- **Name at least two underlying cognitive theories of ASD and describe in 1-2 sentences**
    1) Central Coherence is a theory regarding individuals on the ASD spectrum and how they have difficulty conceptualizing a larger whole. Individuals with ASD tend to think in aparts and do not fully relate their pieces of information back to a larger pattern of thought which will impact them both socially and academically.
    2) The executive dysfunction theory shares that people with social cognitive deficits have difficulty solving personal problems, communicating effectively and creating organizational structures that allow for flexibility and prioritization. This will affect their social relationships and academic performance.
- **What is the diagnostic criteria according to the current DSM-5 for Autism Spectrum Disorder?**
    - Criteria for ASD
        - 1) Social Communication and Interaction (SCI) <u>manifest 3 of 3</u>
            - Deficits in social-emotional reciprocity
            - Deficits in nonverbal communicative behaviors used for social interaction
            - Deficits in developing, maintain, and understanding relationships

Downloaded by moin khan (moinamb99@gmail.com)

- 2) Restricted, Repetitive behaviors (RHB) <u>at least 2 of the 4</u>
    - Stereotyped or repetitive speech, motor movements of use of objects
    - Need for sameness
    - Restricted interests
    - Unusual sensory interests' hypo/hypersensitivity

• Name two primarily behavioral principled intervention approaches for individuals with ASD

DTI and PECS

• Given a specific language/communication profile, which assessment measure would you use?

John is a 15 month old boy and they have begun to pick up some subtle signs of ASD. They are aware of early signs because their older son, Jack who is 6, has an ASD diagnosis. John does not have established JA skills and he is not consistently sharing facial expressions, nor is he babbling or participating in back and forth gestures. I would use the CSBS because this is a good measure for early ID of children who are at risk of developing a communication impairment. This is a standardized measure that assesses communicative, social-affective and symbolic abilities of children whose functional communication age is between 8 months and 2 years. It will help establish a profile for communication in order to provide appropriate direction for intervention planning.

• Given a specific language/communication profile, which intervention measure would you use?

Emilie is a 7 year old girl diagnosed with ASD who is non-verbal. She is an emerging communicator and communicates primarily through gestures and behaviors. She loves to use objects to show what she needs/wants and does not initiate conversation. She does not interact with her peers independently and chooses to color rather than play. In combination with other intervention measures I would use PECS. I would choose this behavioral intervention approach because it is designed to address failure to initiate communication. This is a reliance on visual learning which Emilie has previously shown to be drawn too. PECS has shown to have increased functional communication initiations, increased vocalizations, and improved interactions with others.

• What is Theory of Mind? How does this relate to individuals on the autism spectrum?

- Theory of Mind (ToM) Deficit
    - https://www.youtube.com/watch?v=N6ylH- LYjOM&pbjreload=10
    - Uta Frith- German Developmental psychologist
    - False belief tests- how we test
        - Develops between 4-5 (4 year olds typically fail, 5 years often pass)
        - Very language heavy
        - So may not be that they don't cognitively get it, the way that it is presents is high
        - Realization that it is possible to hold false beliefs in the form of the world
        - Second order- develops between 6-10 years of old- possible to hold a false belief about someone else's belief
    - Not just for ASD (TBI, language disorders)
    - Think, know, wish, feel → all of these abstract verbs are really hard
    - Persuasive essays are very challenging (thinking about what others think)
    - In the school-- challenges with critical thinking (about how characters are feeling in texts because not explicitly stated by the author)
    - Problems with perspective taking→ challenges with forming and maintaining friendships
    - pragmatics= social cognition (better umbrella term)
    - Not empathy- so far from the truth

Theory of mind is **an important social-cognitive skill that involves the ability to think about mental states, both your own and those of others**. It encompasses the ability to attribute mental states, including emotions, desires, beliefs, and knowledge

Parent Panel

- Approach from a human standpoint not a textbook standpoint

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)

- Try to recommend things that they are already doing (not worksheets, things they can do during bathtime etc.)

Parental Stress

- Parents of children with ASD experience more stress than parents of children with any other conditions
- Correlations between (but literature isn't clear)
    - Severity of disability
    - Problem behaviors
    - Waiting time for services
- Teaching Parents
    - What approaches actually work
        - Follow in commenting
        - Linguistic mapping
        - Expansions
        - Decreasing use of redirects

make sure when we write goals for project they are based on neurodiverse model not medical
→ do not say "they will make comments etc.

ASD in Adults

- Adults with ASD without intellectual impairment often experience:
    - Social isolation
    - Difficulties with activities of daily living
    - Unemployment
    - Mental and physical health problems
- Benefit from support around:
    - Finding and retaining employment
    - Tasks of daily living
    - Social interaction
        - Mentoring, befriending, peer support groups
    - Advice or advocacy locating/accessing services
        - Housing
        - Health
        - Criminal justice system
- ASD Research
    - CARES Act of 2019
        - Supports research of ASD
        - Emphasises community-based services, including social support and housing, and employment services to maximize independence and participation for adults with ASD
    - Adults with ASD are less well researched than children and adolescents
    - Focused on causation rather than interventions and supports
- Intervention
    - Thee studies were divided into the following categories of intervention type:
        - Social skills training and psychoeducation
        - Job interview training
        - Employment support
        - Music and dance
        - Support and mentoring for university students
- Take away
    - We don't have great evidence for this population
    - Job interview training can be effective in improving interview performance

Downloaded by moin khan (moinamb99@gmail.com)

    - Social skills training can be effective in improving self-rated social skills, ASD symptoms and social relations
    - Supported employment programs can be effective in increasing employment
    - The evidence on other interventions and outcomes is limited and inconclusive

Last Class 12/7/21

Meghan's 2021 ASHA: Embracing Neurodiversity- Alternative Methods for Supporting Autistic Women

- Neurodiversity paradigm
- Not disabled by autism- disabled by environment
- Social model of disability- disability happens when environment does not cater to someone's individual characteristics
- Medical model- disability happens because of the way the autism brain works
- Mismatch in communication which caused the breakdown
- Autistic burnout is a very big problem especially with woman (masking → trauma)
- Shifts in rationale- should never be to be more neurotypical
- Goals should be written in a strength based approach (ie. her own intended message using verbal and noonverbal communication means and then identify how her message would be interpreted by her communication partner) using what a client has -- shift away from a deficit based approach

This document is available free of charge on studocu

Downloaded by moin khan (moinamb99@gmail.com)